



# **CDRL A015**

## **CATHODIC PROTECTION ANNUAL REPORT PERFORMANCE BOOKLET**

**REPORTING PERIOD: 01 Jan 2007 to 31 Dec 2007**

LAUNCH OPERATIONS SUPPORT CONTRACT  
Contract Number: FA4610-04-C-0004



# Table of Contents

Section I .....	1
Introduction.....	1
Summary .....	1
Conclusions.....	1
Section II.....	1
Building 525.....	2
Test Station #1 (Line to Tank) .....	2
Test Station #2 (Line to Tank) .....	2
Test Station #3 (Line to Tank) .....	3
Test Station #4 (Oil Waste Tank) .....	3
Test Station #5 (Fuel Waste Tank) .....	4

## Section I

### Introduction

In compliance to CDRL A015, an annual survey was performed for the cathodic protection of diesel waste, storage tanks and oil waste tank at Building 525 (South Vandenberg Power Plant). As of this reporting period, only the SVPP (Bldg 525) is the only LOSC facility that has cathodic protection installed.

### Summary

The results of the annual readings taken from the diesel storage system's cathodic protection shows that currently, in place system are inadequate in providing any sort of protection to the underground piping and storage tanks. Conditions have not changed since the last reporting period.

### Conclusions

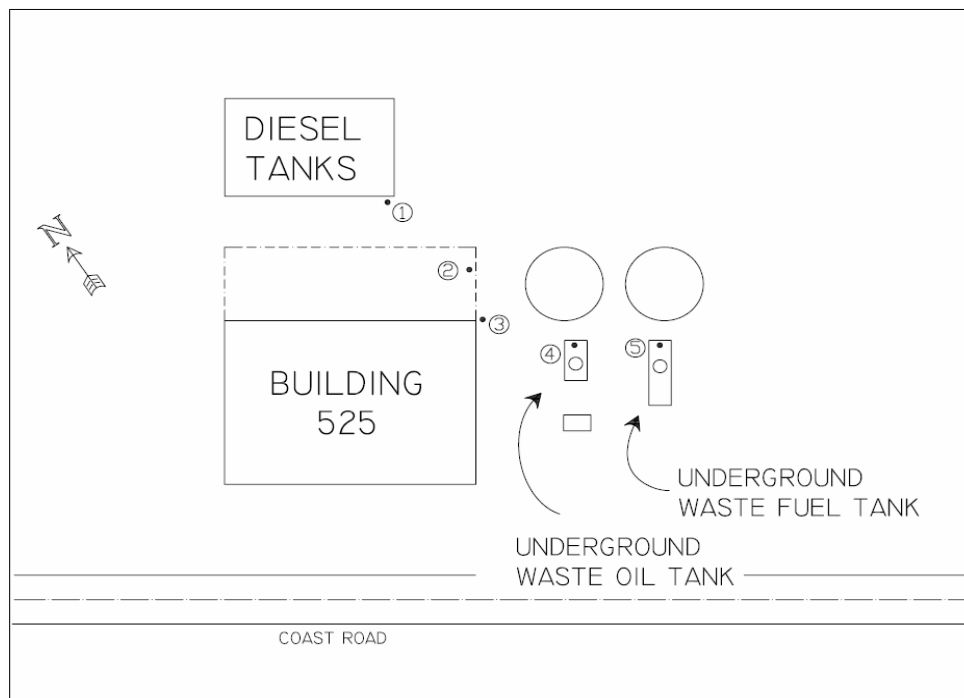
The underground tanks located at Building 525 are not adequately protected due to the current condition of the cathodic protection system. It is recommended that due the current physical condition, the system be replaced or upgraded in order to provide the required protection. A work request has been previously submitted (IWIMS No. 00373), no action was undertaken. CHI submitted a new CE work request on 23 Jan 07 #39293 (Status as of Sept 2007, CEV performed inspection on site and noted the system "Not-Acceptable").

## Section II

Testing of the cathode protection system was executed with the aid of a copper-copper sulfate ( $\text{Cu-CuSO}_4$ ) test electrode (McMiller Electrode RE-5C) and a Fluke 83III multimeter.

Each measurement is obtained by placing the copper-copper sulfate test electrode into the earth surrounding the area in which the anode bed is located. The voltage is then measured between the copper-copper sulfate electrode and the anode lead on each test station.

A negative potential of at least 850 millivolts as measured with respect to a saturated copper-copper sulfate reference electrode contacting the electrolyte is considered the criteria for cathodic protection of buried or submerged steel structures.

**Building 525****Figure 1 locations of test stations at Bldg. 525****Test Station #1: Line to tank**

A test lead connected to seven 20lb. magnesium anodes to protect thirteen pipelines from the Fuel Oil Day Tanks to the Gas Turbine Generators.

Tests revealed that due to depleted magnesium anodes, no accurate reading can be obtained

**Test Station #2: Line to tank**

Two test leads connected to seven 20lb. magnesium anodes to protect the 3" lines from fuel and oil day tanks the waste fuel and waste oil tanks.

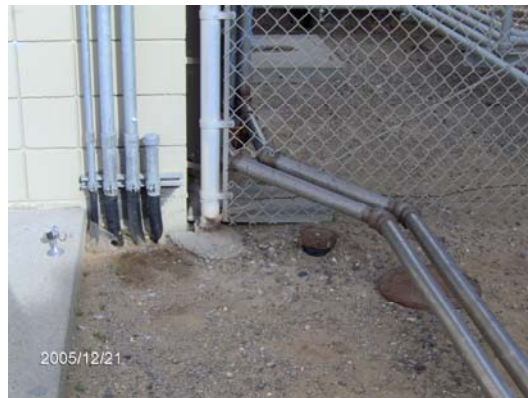
Tests revealed that due to depleted magnesium anodes, no accurate reading can be obtained.

**Figure 2 Test Station #2**

### **Test Station #3: Line to tank**

Two test leads connected to eight 20lb. magnesium anodes to protect the 4" lines from the Gas Turbine Generators to the waste fuel and waste oil tanks.

Tests revealed that due to depleted magnesium anodes, no accurate reading can be obtained.

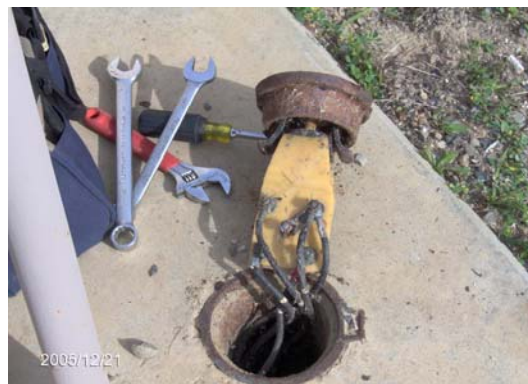


**Figure 3 Test Station #3**

### **Test Station #4: Oil Waste Tank**

Two test leads connected to four 20lb. magnesium anodes to protect the waste oil tank.

Tests revealed that due to depleted magnesium anodes, no accurate reading can be obtained.



**Figure 4 Underground waste oil tank test station**

**Test Station #5: Fuel Waste Tank**

A test leads connected to six 20lb. magnesium anodes to protect the waste fuel tank.

Tests revealed that due to depleted magnesium anodes, no accurate reading can be obtained.